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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/068,047 | 02/05/2002 | Ernest C. Chen | PD-201151 | 8312 |
| 20991 | 7590 | 02/27/2006 | EXAMINER | |
| THE DIRECTV GROUP INC | | | TORRES, JUAN A | |
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| | | | 2631 | |

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/068,047 | Applicant(s) CHEN ET AL. | |
| | Examiner Juan A. Torres | Art Unit 2631 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-22 is/are allowed.
- 6) ☒ Claim(s) 1-2, 5-7, 10, 12-15, 23-24, 27-29, 32 and 34-46 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 8, 9, 11, 25, 26, 30, 31 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The modifications to the specification were received on 01/30/2006. These modifications are not accepted by the Examiner.

The amendment filed 01/30/2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the original filed specification didn't disclose "non-legacy signals".

Claim Objections

In view of the amendment and remarks filed on 01/30/2006, the Examiner withdraws claim objections to claims 3, 41-43 and 44-46 of the previous Office action.

Double Patenting

In view of the amendment and remarks filed on 01/30/2006, the Examiner maintains the double patenting rejection of the previous Office action, because claims in the present application are broader in scope than the claims in copending application 10/068039.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225

USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 2, 5, 6, 7, 10, 12, 13, 14, 15, 23, 24, 27, 28, 29, 32, 34, 35, 36 and 37 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 19, 22, 23, 24, 25, 26, 27, 28, 29 and 30 respectively of copending Application No. 10/068,039. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims in the present application are broader in scope.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

In view of the amendment and remarks filed on 01/30/2006, the Examiner maintains the claims rejection under 35 USC 112 first paragraph of claims 38-46 of the

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previous Office action, because the specification doesn't disclose implicitly or inherently "non-legacy signals".

In view of the amendment and remarks filed on 01/30/2006, the Examiner maintains the claims rejection under 35 USC 112 second paragraph of claims 44-46 of the previous Office action, because in lines 5-8 of claim 44 the recitation "receiving a non-coherently layered modulation signal comprising a lower layer having the legacy data non-coherently layered with an upper layer signal having the non-legacy data, wherein the upper layer signal comprises the legacy data and the lower layer signal comprises the non-legacy data".

It is vague and indefinite, because it is not understood how the upper layer has at the same time the non-legacy and the legacy data.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 38-46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification doesn't disclose "non-legacy signals".

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 44-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitation in claim 44 "receiving a non-coherently layered modulation signal comprising a lower layer having the legacy data non-coherently layered with an **upper layer signal having the non-legacy data**, wherein the **upper layer signal comprises the legacy data** and the lower layer signal comprises the non-legacy data". It is vague and indefinite, because it is not understood how the upper layer has at the same time the non-legacy and the legacy data.

Claim Rejections - 35 USC § 103

Applicant's arguments, see Amendment - After Non-Final Rejection, filed 01/30/2006, with respect to claims 1-46 have been fully considered and are persuasive. The rejection under 35 USC 103 of claims 1-46 has been withdrawn.

Response to Arguments

The Applicant contends (see pages 26 of remarks), "As the Applicants understand the Office Action's hypothetical receiver, the "new" receiver will discern 16 possibilities were four not one".

The Examiner wants to clarify this point and also to make sure that the Applicants understand what the Examiner is trying to communicate.

Applicants admit (in admitted prior art in the Jepson format preamble of claims 44 and 41) that it is prior art that the legacy and non-legacy system works in parallel (this is the reason the Examiner object these claims in the previous Office action, trying to avoid the Jepson type claim that usually begins with "In a").

The Examiner disagrees and asserts, that, as indicated in the previous Office action, in Ishio figure 6, Ishio states "The second embodiment shown in FIG. 6 is substantially in construction to the first embodiment shown in FIG. 5 except that a re-modulation circuit 29, a subtractor 30 and a four-phase demodulation circuit 31 are additionally connected. Thus, **the second embodiment is capable of demodulating 64-ary APK signal**. That is, when the four-phase modulated signals regenerated by the re-modulation circuits 21 and 29 are combined, the 16-ary APK signal shown in FIG. 4 is derived. When the 64-ary APK signal; that is, the input signal is subtracted vectorially from the regenerated 16-ary APK signal in the subtractor 30, the third path signal; that is, the 4-PSK signal is obtained by vectorially subtracting the 16-ary APK signal demodulated in FIG. 5 from the 64-ary APK signal. By demodulating the four-phase modulated signal by the four-phase demodulation circuit 31, the base band pulses corresponding to the third path signal are regenerated. As described above, in general, the $2^{2(k+2)}$ -ary APK signal may be demodulated by a circuit configuration consisting of a number of k cascade-connected unit or fundamental circuits each consisting of a re-modulation circuit, a subtractor and a four-phase demodulation circuit". Then the legacy system will use 4 modulation points (see figure 2); and the "new" system (figure 6) will use 64-ary, so in each of the original 4 points constellation there are 16 new points ($4 \times 16 = 64$), so it is a 16 points modulation constellation in each of the original 4 points modulation.

Allowable Subject Matter

Claims 16-22 are allowed.

The following is an examiner's statement of reasons for allowance: claims 16-22 are allowed because the references cited fail to teach, as applicant has, decoding and demodulating the upper layer signal from the non-coherently layered modulation signal and providing the demodulated and decoded upper layer signal, as the applicant has claimed.

Claims 3, 4, 8, 9, 11, 25, 26, 30, 31 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: claims 3, 4, 8, 9, 11, 25, 26, 30, 31 and 33 are allowed because the references cited fail to teach, as applicant has, decoding digitalized non-coherent layered in-phase signal and non-coherent layered quadrature signal to produce an upper layer signal and a lower layer signal, as the applicant has claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

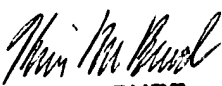
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres
02-14-2006


KEVIN BURD
PRIMARY EXAMINER